

## THE SCOLOPENDRIDAE OF SOUTH AFRICA

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With 28 Text figures.

*Introduction.*

I HAVE undertaken the specific determination of the South African *Scolopendridae* in order to bring this apparently neglected group on a level with those leading Arthropodan divisions that have received considerable attention in the past from leading authorities. The interested reader will notice that not a single new genus or species has been established. Here and there I have been tempted to establish a new species, but the range of variation in a single species is so considerable in the *Scolopendridae* that I have thought it advisable to adhere to the determination of the previous workers on the group. Kraepelin, who recognised this phenomenon only too clearly, made provision for it in his diagnoses of the species. He, more than anybody else, is responsible for the systematic work on our South African *Scolopendridae*.

I am deeply indebted to the Director of the Transvaal Museum, Pretoria, and Mr John Hewitt, Director of the Albany Museum, Grahamstown, for placing their entire collections of *Scolopendridae* at my disposal. I am specially grateful to Mr John Hewitt for the many suggestions he proposed and which have been given effect to in preparing the manuscript.

Probably four-fifths of the South African Chilopoda are included in the family *Scolopendridae*. In his monograph: *Myriopoda Africae Australis, in Museo Regio Holmiensi asservata, recensuit 1871*, C. O. von Porath founded a new genus and several new species of Scolopendrids. His monograph is the first definite contribution to our knowledge of the South African Chilopoda. In it were recorded and described *Scutigera capensis* Templeton, and *Scutigera rugosa* Newport; a new species *Henicops africana* of the *Lithobiidae*; and several new species of Scolopendrids belonging to the genera *Scolopendra*, *Cormocephalus*, *Eucorybus*, *Heterostoma* and *Trematoptychus* were described. The genera *Heterostoma* Newport and *Dacetum* C. L. Koch have been included in the single genus.

*Ethmostigmus* Pocock; *Eucorybus* Lucas has been supplanted by *Alipes* Imhoff; and *Trematoptychus* Peters by *Rhysida* Wood.

Pocock raises the Scolopendrids to the order Scolopendromorpha, in which all the eyebearing forms are placed in the family *Scolopendridae*, with two sub-families, *Alipinae* and *Scolopendrinae*. The forms without eyes are referred to several families; the most important of these are the three families *Cryptopidae*, *Scolocryptopidae* and *Newportiidae*. These three families are included in Kraepelin's sub-family, the *Cryptopinae*. Kraepelin regards *Cryptops* as the least specialised form, and, in virtue of the following characters, uses it as a basis of classification. The characters are: uni-segmented tarsals; absence of eyes; slight differentiation of the segments of the antennae; nature of the pleurae; armour of the anal legs. He divides the Scolopendrids into the three sub-families:

1. *Cryptopinae*.
2. *Otostigminae*.
3. *Scolopendrinae*.

His classification is founded on:

- (a) The presence or absence of eyes.
- (b) The nature of the stigmata.
- (c) The division or non-division of the tarsals.
- (d) The presence or absence of longitudinal grooves (sulci) on the scuta and terga.

It is on this classification that the Chilopoda from the Transvaal Museum, Pretoria, and the Albany Museum, Grahamstown, placed at my disposal, have been specially determined. No members of the *Cryptopinae* have thus far been found in South Africa.

The principal literature consulted was:

Kraepelin's "Revision der Scolopendriden" from *Mitteilungen aus dem Naturhistorischen Museum*, vol. xx. 1903 (2 Beiheft zum *Jahrbuch der Hamburgischen Wissenschaftlichen Anstalten*, xx.);

and for original descriptions of species:

*Myriopoda Africae Australis*, in *Museo Regio Holmiensi asservata, recensuit 1871*, by C. O. von Porath.

The *Scolopendridae* are divided into the three sub-families *Cryptopinae*, *Otostigminae* and *Scolopendrinae*.

The following is a key to the *Otostigminae* and *Scolopendrinae*, the two sub-families represented in South Africa.

- A. Four eyes on each side of the head. The tibia of the walking legs followed by a proximal and distal tarsus; these form an angle at the point of contact. The tibia of the walking legs (except the first) are not provided with spines or spurs on the under surface, and they have no spine on the distal extremity
  - a 1. Opening of stigmata rounded, oval or nearly circular, shallow or sunken into body-wall, placed obliquely to the longitudinal axis of body, and almost perpendicular to axis in the posterior somites; on contraction it closes antero-posteriorly. Head-plate does not extend over the first tergite; basal plates and longitudinal sulci absent . . . **Otostigminae**
  - a 2. Opening of stigmata acute-angled anteriorly, from short triangle-shaped to long trianguliform or narrow, slit-like placed parallel to the longitudinal axis of the body, and contracts dorso-ventrally. Tarsal spurs absent or only represented by single spines. Head-plate often extends over anterior margin of first tergite or provided with basal plates and two median sulci . . . . . **Scolopendrinae**

Sub-family OTOSTIGMINAE.

*Key to the South African genera*

(adapted and slightly modified from Kraepelin's *Revision der Scolopendriden*).

- 1. Only nine stigmata developed (seventh segment without stigmata).
  - Only first to second seldom first to third segments of antennae naked . . . . . **2**
  - Ten stigmata developed (eighth segment without stigmata). Always first three or first four segments of antennae naked . . . . . **3**
- 2. Anal legs have the normal shape, provided with terminal claws. The tergites are seldom carinated and coarsely punctured
  - Otostigmus** Porath (not represented in S. Africa)
  - Anal legs have the last three segments (tibia, proximal and distal tarsals) laterally compressed to form a wide oar-shaped or racket-shaped plate (see fig. 2) without terminal claws. Tergites always carinated, and generally coarsely punctured . . . . . **Alipes** Imhoff

3. Sternocoxal plate (maxillary sternite) provided with distinct prosternal dentiferous plates. The pleurae end in a process with spines. Tergites not provided with broad elevated ridges and deep impressions, they are smooth and bisulcate. Sternites bisulcate or without sulci. Only first three or first four segments of antennae are naked . . . . . 4
4. Femur of maxillipede provided with well-developed basal tooth extending beyond the prosternal plates. Generally the first three (very seldom the first four) segments of antennae naked. Stigmata deepened, surrounded by a prominent wall that inclines to the inside, the stigmata wall seldom flattened . . . . . **Rhysida** Wood
- Femur of maxillipede not provided with a basal tooth extending beyond the prosternal plates, at most a dwindling rugosity is present. Only first four segments of antennae are naked. Stigmata large, the first is exceptionally large, they are flat-bottomed. The pleurae usually end in a long process . . . . . **Ethmostigmus** Pocock

Genus *ALIPES* Imhoff.

(See figs. 1 and 2.)

*Alipes crotalus* Gerst. Antennae 17 segments,  $2\frac{1}{3}$  basal segments naked. The two longitudinal and the median carinations of the tergites begin on the third somite with broad shallow ridges richly covered with fine, short, hairy setae. Marginations begin from the fifth or sixth tergite. Lateral depressions are partly developed, densely and finely punctured. The carinations are densely

Fig. 1. Pleura and anal somite of *Alipes crotalus* Gerst.Fig. 2. Anal leg of *Alipes crotalus* Gerst. *f* = femur; *p* = patella; *t* = tibia; *t*<sub>1</sub> = proximal tarsus; *t*<sub>2</sub> = distal tarsus.

punctured and finely granulated; anal tergite finely punctured with a distinct median depression. Sternocoxal plate (maxillary sternite) sparsely punctured, with abbreviated anterior sulcus; prosternal plates about as long as broad, each bearing four teeth. The sternites are smooth, without median sulci, but often with two lateral depressions and on the posterior edge a median depression; anal sternite abbreviated, posterior margin rounded. Posterior margin of pleurae curved, almost rectangular. Femur of anal legs coarsely punctured dorsally, without a basal process or tooth-like prominence; tibia a little longer than the breadth (measured from point to point) of the posterior margin; first tarsus about  $\frac{1}{2}$  broader than the posterior margin of tibia (5.5 : 4.5 mm.),  $1\frac{1}{3}$  times as long as broad, studded with flattened oval rugosities. Colour yellowish brown to reddish brown; the head-plate often redder. Length up to 64 mm. with breadth 5 mm.

The description of this species is largely taken from Kraepelin, *loc. cit.* The specimens are from: Hectorspruit (Tvl.); Newington, near Komatipoort (Tvl.); Natal (Miss H. Becker); and Selati.

The genus is only represented by the single species in South Africa. It is very uncommon, and seems to be confined to the north-eastern regions of South Africa.

The following species (Kraepelin, *loc. cit.*) should be noted:

- A. appendiculatus* Poc.: Nyasaland, Zambesi.  
*A. calcipes* Cook: South-West Africa (Quango, Angola).  
*A. multicostis* Imh.: West Africa (Cameroon, Mundave, Sierra Leone, and Gold Coast, Elephantensu).  
*A. grandidieri* Luc.: East Africa (Zanzibar and East Afr. Protectorate (formerly German East Africa)).

### Genus ETHMOSTIGMUS Pocock.

(See figs. 3 and 4.)

Key to *Ethmostigmus trigonopodus* Leach.

*Sternocoxal plate* (maxillary sternite) provided with four equal, or nearly equal, stout teeth. Penultimate walking leg generally provided with a tarsal spur.

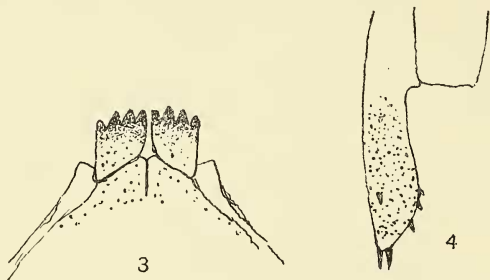


Fig. 3. Maxillary sternite (or sternocoxal plate) and prosternal dentiferous plates of *Ethmostigmus trigonopodus* Leach.

Fig. 4. Pleura and armature of *Ethmostigmus trigonopodus* Leach.

Femur of anal legs ventral exterior with 3 (2), ventral interior with 2 (3) spines, dorsal with 2, 2 spines and terminal spine.

The bifid termination of the pleurae have the shape of two short stout needles; *pleurae* armed dorsally with 2-3 spines, laterally with 1-2 spines, the anal sternite does not extend up to the pleurae.

*Habitat*: "Durch ganz Afrika von Algier und Abyssinien bis zum Kaplande, am häufigsten aber im tropischen Afrika, sowohl an der West- wie an der Ost-Küste" (Kraepelin, *loc. cit.*).

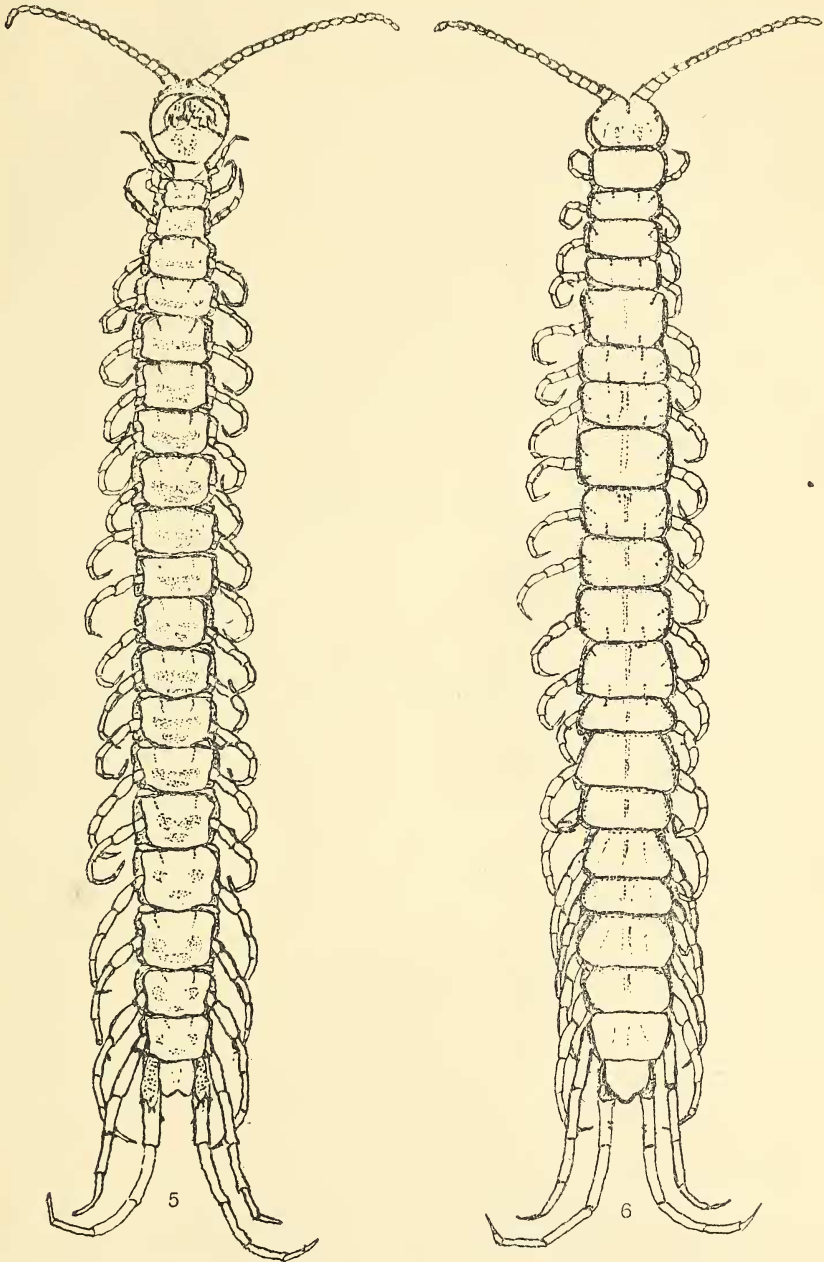
The museum specimens were from: Leydsdorp (Tvl.); Hectorspruit (Tvl.); Malelane (Tvl.); Vygeboompoort, Waterberg (Tvl.) (G. van Dam); Victoria Falls; Shoholle, near Gravelotte Railway Station (G. P. F. van Dam).

### Genus RHYSIDA Wood.

*Key to the South African species.*

1. Tergites without median sulci, at most a pair of short median lines is present on the posterior margin. Sternites with a pair of faint, abbreviated sulci, and often two shallow impressions. Anal tergite margin-



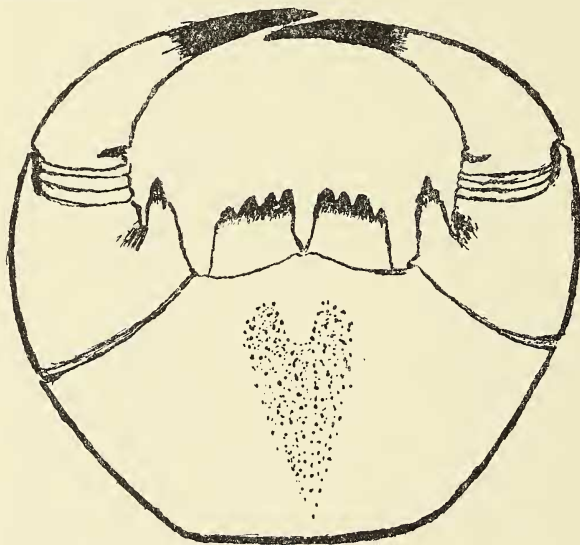


Figs. 5 and 6. *Rhysida afra* Peters. 5, ventral view; 6, dorsal view.

- ate. Posterior boundary line of the prosternal dentiferous plates meet in an obtuse angle. Anal sternite abbreviated, posteriorly angularly or curved emarginate. Femur of anal legs armed ventrally with a few spines. Pleurae with bifid extremity; exterior margin or porous area deeply emarginate. Nineteenth pair of legs with one tarsal spur, twentieth without. First stigmata (when closed) S-shaped (see fig. 12); second often S-shaped . . . . . 2
2. Pleurae provided laterally with a spine, and strong bifid termination. Femur of anal legs armed with an aggregate ventrally and internally with 3-4 spines (see fig. 11) . . . . . **R. afra** Peters  
 Pleurae without lateral spine, weak bifid termination. Femur of anal legs unarmed or at most one or two small spines . . . . . **R. petersi** Porath

1. *Rhysida afra* Peters. (Figs. 5, 6.)

*Habitat*: Delagoa Bay; Haenertsburg, Waterberg (Tvl.); Alicedale (C. Prov.); Belfast (Natal); Sunnyside, Pretoria (B. Penfold, Esq.); Wakkerstroom (Tvl.) (M. Hazellhurst); Rustenburg (Tvl.) (J. H. van Dam); Sjambockstad, Pretoria (F. C. Zwarts); Avontuur (C. Prov.) (J. H. Rex); Vygeboompoort (Tvl.) (G. van Dam); Roodepoort Dist., Pretoria (G. P. F. van Dam); Nylstroom, Waterberg (G. P. F. van Dam).



7

Fig. 7. Sternocoxal plate (maxillary sternite) and maxillipedes of *Rhysida afra* Peters.

2. *Rhysida petersi* Porath.

*Habitat*: Port Elizabeth and neighbourhood; Giant's Castle, Tabamlope, (Natal); Haenertsburg, Zoutpansb. distr. (Mr Swierstra); Wakkerstroom (Tvl.) (Mr A. Roberts); Grahamstown (C. Prov.) (G. P. F. van Dam).

The two species *R. afra* and *R. petersi* are usually if not invariably found in the same locality, and they are in most characters so alike that they appear to be one and the same species. It is, however, advisable to adhere to the two

species; I found a tibial spur present on 1-11 legs, 1-4(-5) legs and on 1-9 legs in *R. petersi*. Porath says of *R. petersi*: "paria 1-3 (num plures?) praeterea articulo antepenultimo spinula 1."

He tabulates the differences between the two species as follows:

<i>Rhysida petersi</i> .	<i>Rhysida afro</i> .
Anal legs comparatively longer.	Anal legs are comparatively shorter; a little more than 14 mm., against a body length of 55 mm.
The lower side of anal legs provided with only <i>one</i> spine.	The lower side of anal legs provided with two spines. (There may be from three to four spines on femur of anal legs. C. S. Grobbelaar.)
Pleurae generally without lateral spine.	Pleurae generally provided with a lateral spine.
Scuta faintly but clearly punctured (pointed).	The dorsal segments of the body appear smooth (Peters).
The penultimate pair of legs a little shorter than anal legs, and the difference between them and the antepenultimate is greater than between the same and the anal legs.	The penultimate pair of legs agree much more with the antepenultimate than with the anal legs.
Colour of legs lighter.	Legs a little lighter than colour of the body.

I ascertained the following difference:

Mandible with five teeth (fig. 10).	Mandible with four teeth (figs. 8, 9).
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### Sub-family SCOLOPENDRINAE.

#### *Key to the South African genera*

(adapted from Kraepelin, *loc. cit.*).

1. Proximal tarsus of the legs clearly longer than the distal. Twenty-one somites . . . . . 2
2. Pleurae non-porous, smooth, almost covered by the anal sternite (fig. 13) of the anal somite, abbreviated, without trace of a process. Antennae very short, at most reaching to the end of the first tergite . . . . . 3  
Pleurae distinctly porous, free, always provided with a process carrying one, two or more spines. Antennae longer, always extending beyond the first tergite . . . . . 4
3. Head-plate not overlapped posteriorly by the first tergite, free. Four eyes flush with the surface. Second shorter than the first. Antennae extend to the end of the first tergite . . . . . **Asanada** Meinert
4. First tergite usually without a pair of complete median sulci. Claws of anal legs seldom longer or as long as the distal tarsus, the under side usually concave measured from the base (cf. however, *Arthrorhabdus*). Stigmata usually elongate . . . . . 5
5. All walking legs without tarsal spurs . . . . . 6  
All walking legs (exc. the last) with tarsal spurs . . . . . 10
6. Process of pleura armed with many spines at the end (multi-pointed); head-plate usually overlaps first tergite, seldom overlapped by it . . . . . 7  
Process of pleura ends in a single spine, mostly in two spines or bifid and seldom in three, or entirely without spines. Posterior margin of head-plate usually overlapped by first tergite (Old-World) . . . . . 8
7. Head-plate with distinct basal plates at base. Pleurae short, cylindrical. Segments of antennae all shorter than broad

**Hemicormocephalus** Kraepelin

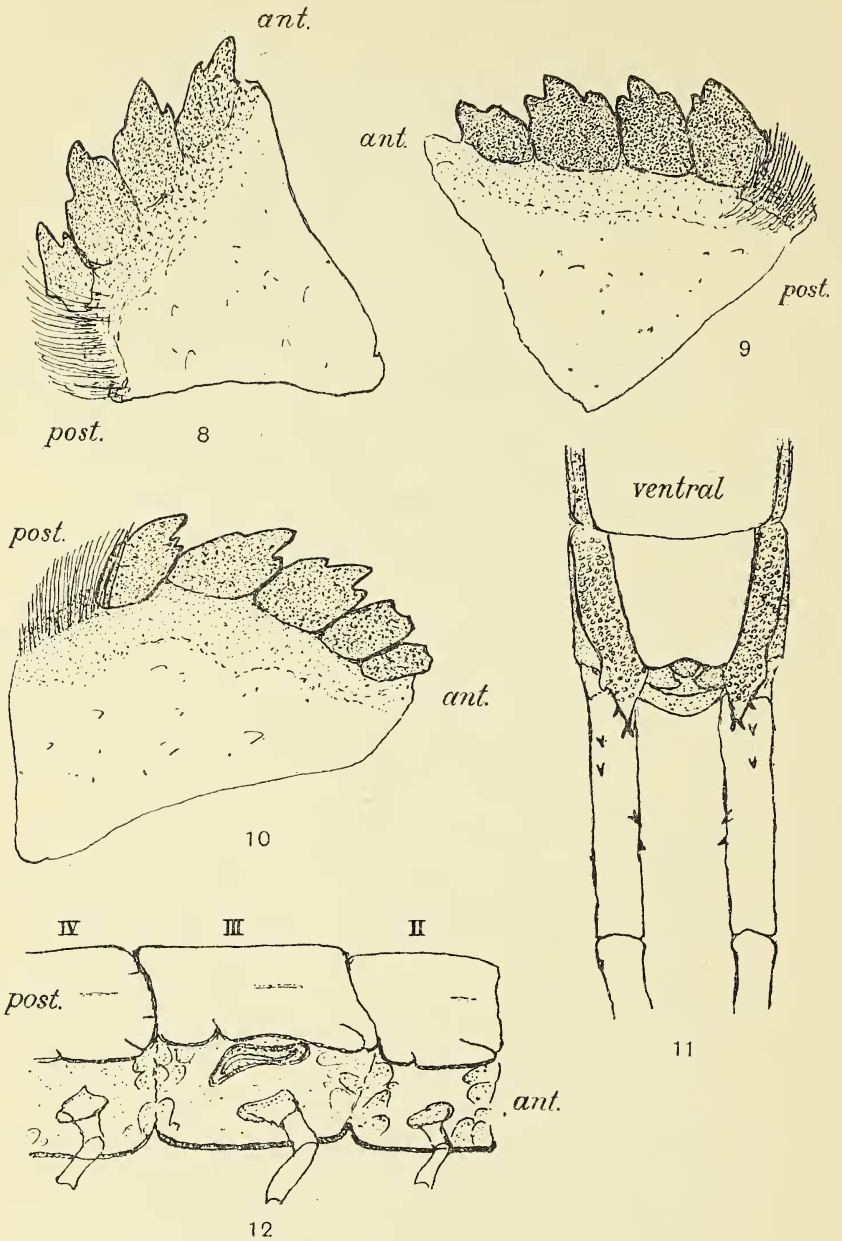


Fig. 8. Mandible (from the outside). *R. afra* Peters.

Fig. 9. Mandible (from the inside). *R. afra* Peters.

Fig. 10. Mandible (from the inside). *R. petersi* Porath.

Fig. 11. Anal somite, pleurae and femur of anal legs (ventral). *R. afra* Peters.

Fig. 12. 2nd, 3rd and 4th somites (lateral) to illustrate the U-shaped opening of the first stigmata. *R. afra* Peters.



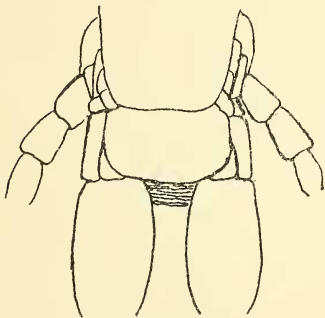
8. Anterior margin of first tergite overlaps posterior margin of head-plate, the head-plate and first tergite seldom just meet each other. Process of pleura bifid or trifid (three-pointed) or unarmed. Head-plate usually with a pair of median sulci, and basal plates . . . . . 9
9. Process of pleura without spines. Femur of anal legs unarmed or nearly so . . . . . **Colobopleurus** Kraepelin  
Process of pleura bifid, seldom trifid; femur of anal legs armed  
**Cormocephalus** Newport
10. Head-plate meets the first tergite in a transverse sulcus, it does not end freely. Tergites bisulcate from second somite  
**Trachycormocephalus** Kraepelin  
Head-plate ends freely, overlaps or just meets the first tergite. Tergites usually not bisulcate from the second tergite . . . . . 11
11. Claws of anal legs without spurs. Head-plate, with posterior margin free, just meets the first tergite, scarcely or not at all overlapping it  
**Arthrorhabdus** Pocock  
Claws of anal legs always provided with spurs. Head-plate clearly overlaps the anterior margin of first tergite . . . . . **Scolopendra** Linné

Genus *ASANADA* Meinert.

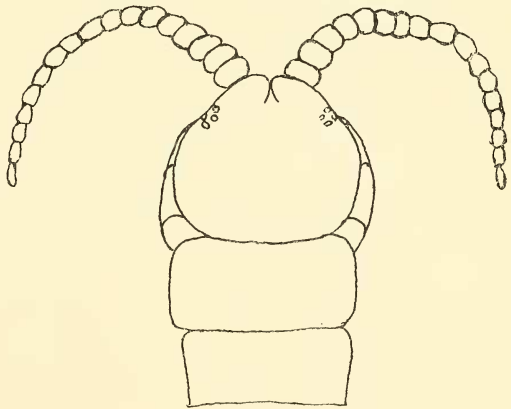
*Asanada socotrana* Pocock. (Figs. 13, 14.)

*Habitat*: Serowe (Bechuanaland); Shoholle, near Gravelotte Railway Station (Tvl.) (G. van Dam).

It is of interest to note that it is the first time this genus has been recovered in South Africa. One specimen from Serowe (Bechuanaland), is in possession of the Albany Museum; the other from Shoholle, near Gravelotte Railway Station (Tvl.), is in the possession of the Transvaal Museum, Pretoria.



13

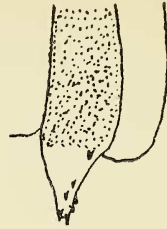


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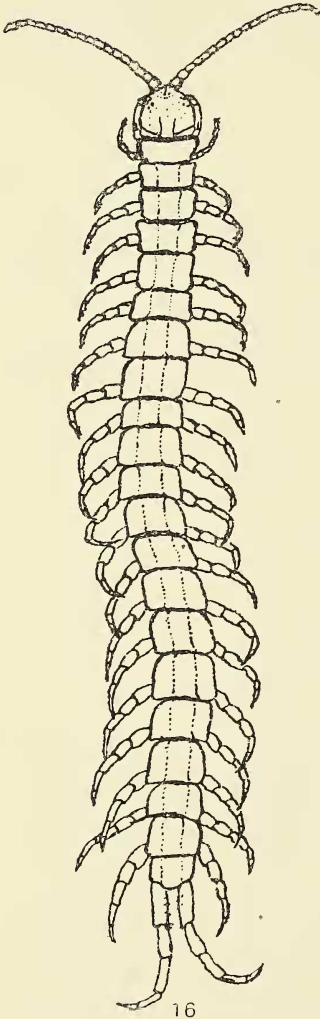
- Fig. 13. Anal somite, pleurae and femur of anal legs (ventral) of *Asanada socotrana*. (From *Revision der Scolopendriden*, Kraep.) The pleurae almost covered by the anal sternite.
- Fig. 14. Head, 1st and 2nd somites (dorsal) of *Asanada socotrana* Meinert. (From *Revision der Scolopendriden*, Kraep.)

Fig. 15.

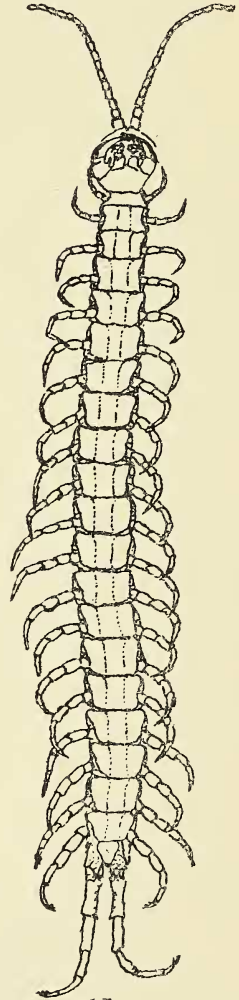
Pleura and armature of *Hemicormocephalus multispinus* Kraepelin. (From *Revision der Scolopendriden*, Kraepelin.)



15



16



17

Figs. 16 and 17. *Cormocephalus nitidus* Porath. 16, dorsal; 17, ventral.

Genus **HEMICORMOCEPHALUS** Kraepelin.*Hemicormocephalus multispinus*. (Fig. 15.)

This genus instituted by Kraepelin contains only the one species. He founded the species on a specimen from Durban. I have found the same species from Mganduli (Natal); one labelled G.C.G.R. Natal, R. E. Symons; L. Tugela (Natal) (R. E. Symons).

Genus **TRACHYCORMOCEPHALUS** Kraepelin.*Trachycormocephalus* sp.? from Worcester Mine, Barberton (Tvl.).Genus **CORMOCEPHALUS** Newport.*Cormocephalus nitidus* Porath. (Figs. 16, 17, 18 and 19.)

*Habitat*: Port Elizabeth; Alicedale; Barberton (Tvl.); Sabi (by J. Flygare); Wakkerstroom (Tvl.); Drakensbergen (Natal) (R. E. Symons); Grahamstown (G. P. F. van Dam).

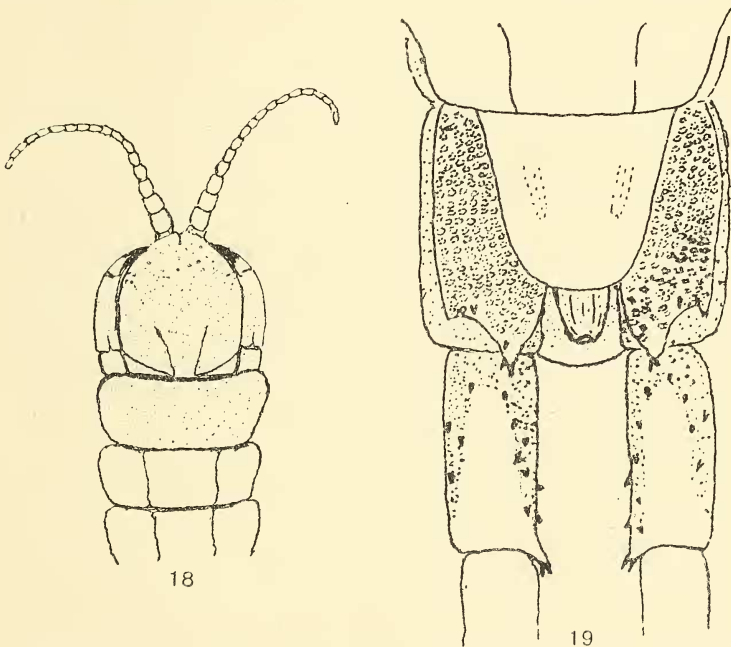


Fig. 18. Head-plate and 1st-3rd somites (dorsal) of *Cormocephalus nitidus* Porath.  
Fig. 19. Anal somite, pleurae and femur of anal legs showing armature (ventral).

*Cormocephalus elegans* Porath.

*Habitat*: Pretoria; Makoetsi River, near Leydsdorp (Tvl.), and several other localities in the Transvaal; Alicedale (C. Prov.); Redhouse (C. Prov.).

*Cormocephalus setiger* Porath.

*Habitat*: Wasserfall (Tvl.); Pretoria (B. Penfold and G. P. F. van Dam); Sunnyside, Pretoria, and several other localities principally in the Transvaal; Port Elizabeth; Cradock (G. P. F. van Dam); Capetown (A. Roberts); Kilgobbin, Dargle (Natal) (A. Roberts).

*Cormocephalus anceps* Porath.

*Habitat:* Venterskroon (Distr. Potchefstroom) (G. van Dam); Woodbush Village (P. Methuen); Doornkop, near Belfast (Tvl.) (R. Gerhardt); Port Elizabeth; Capetown; Kimberley and Natal; Roodepoort Dist., Pretoria (G. P. F. van Dam); Grahamstown (G. P. F. van Dam).

*Cormocephalus calcaratus* Porath.

*Habitat:* Sunnyside, Pretoria (P. Penfold).

Fig. 20.

Femur of anal leg of *Cormocephalus calcaratus* Porath, indicating the armature. (From *Revision der Scolopendriden*, Kraepelin.)



20

*Cormocephalus dispar* Porath.

*Habitat:* Sunnyside, Pretoria (B. Penfold); and several other localities in the Transvaal.

*Key to the South African species of the Genus CORMOCEPHALUS.*

1. First tergite generally without even a trace of a pair of median sulci. Marginations never begin beyond 17th somite. Process of pleura bifid, head-plate very often with basal-plates and a pair of abbreviated median sulci. Femur of anal legs armed on ventral outer surface normally with two rows of spines, which may number 2, 2 up to 4, 5. Claws of anal legs usually without spurs. Sternocoxal plate (prosternal plate) without fine undulating transverse sulci on anterior third . . . . . 2
2. Femur of anal legs on ventral outer surface armed normally with 2, 2 spines. Last or anal tergite with single median sulcus . . . . . 3  
 Femur of anal legs armed on ventral outer surface normally with 2, 3 (seldom 1, 3) up to 5, 5 spines. Last or anal tergite without median sulcus . . . . . 6
3. Marginations of tergites begin from third to sixth somite. Segments of antennae elongate, longer than broad . . . . . 4  
 Marginations of tergites begin from eighth to thirteenth somite. Segments of antennae generally scarcely longer than broad . . . . . 5
4. All the legs (exc. 21st pair) carry spurs to claws; prosternal dentiferous plate separated by a narrow fissure . . . . . **C. dispar** Porath
5. Anal tergite with median sulcus. Porous area of pleurae a narrow oval, hardly broader than the smooth outer margin of the pleura, neither does it extend to the posterior margin usually without a spine. Femur of the anal legs on dorsal inner surface usually with one spine besides the terminal bifid spine. Length only up to 45 mm. . . . . **C. setiger** Porath
6. From 5-8 segments of antennae naked, seldom 9 or 10, and in the latter case marginations begin from 6th-9th tergite . . . . . 7  
 11-16 segments of antennae naked (seldom only 9). Marginations of tergites begin from 12th-17th somite (seldom from 9th). Anal tergite with or without faint median sulcus (often only an indication on posterior half) . . . . . **C. anceps** Porath

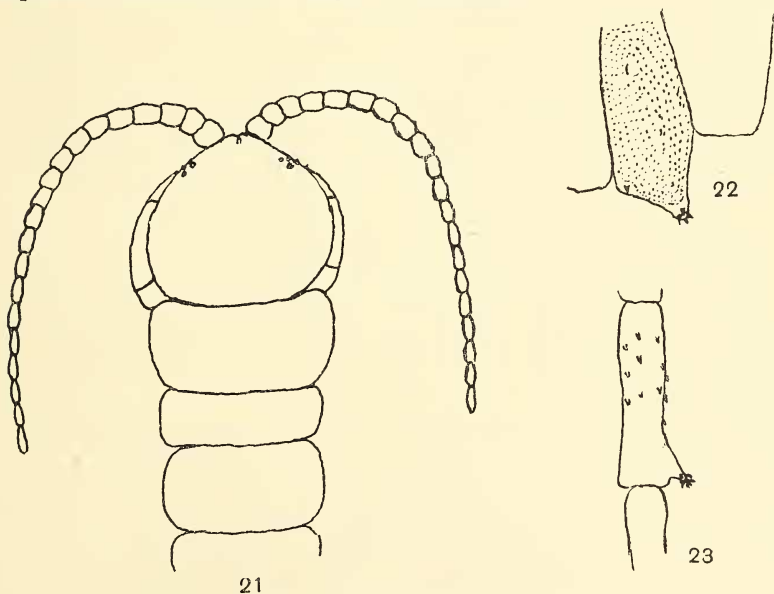


7. Anal tergite with median sulcus . . . . . 8  
 Anal tergite without median sulcus . . . . . 10
8. Porous area of pleurae a narrow oval, not as broad as the naked outer surface, nor does it extend to the posterior margin or to the process of the pleura. Marginations of the tergites begin from the 12th or 13th somite. Claws of anal legs with spurs . . . **C. oligoporus** Kraepelin  
 Porous area of the pleurae broader than the naked outer surface of same, and extending up to the posterior margin of the process. Marginations of the tergites usually begin only from 3rd-10th (seldom only from 15th) somite. Claws of anal legs without spurs . . . . . 9
9. Femur of anal legs ventral outer surface armed with 2, 3 spines, inner surface only with 1-2 spines. Marginations of tergites begin from 7th-9th somite. Tergites without median depression. Pleurae cylindrical. Segments of antennae longer than broad. Up to 80 mm. . . . . **C. elegans** Kraepelin
10. Claws of anal legs with spurs. Femur of anal legs ventral outer surface generally with 3, 3-4, 5 spines (fig. 20). Only five segments of antennae are naked. Length up to 45 mm. . . . . **C. calcaratus** Porath  
 Claws of anal legs without spurs. Femur of anal legs ventral outer surface with 2, 3 spines. 6-8 segments of antennae naked. Length up to 115 mm. . . . . **C. nitidus** Porath

*Cormocephalus oligoporus* (Swakopmund), *Cormocephalus brevicornis* (Mashonaland), *Cormocephalus pseudopunctatus* (Port Elizabeth) are the only remaining species not met with in the material placed at my disposal, and which have been recorded by Kraepelin in his *Revision der Scolopendriden*.

#### Genus SCOLOPENDRA Linnè, Newport.

*Scolopendra morsitans* Linnè. (Figs. 21, 22 and 23.)



- Fig. 21. Head and anterior region of *Scolopendra morsitans* Linnè.  
 Fig. 22. Pleurae showing the four spines at the process and the lateral spine of *Scolopendra morsitans* Linnè.  
 Fig. 23. Femur of anal leg showing armature and the five-pointed process in distal extremity of femur (*Scolopendra morsitans* Linnè).

*Habitat*: Pretoria; Geelhoutkop (Waterberg); Nijlstream (Waterberg) (G. P. F. van Dam); Pretoria (G. P. F. van Dam); Piet Potgietersrust (G. P. F. van Dam and H. R. Pretorius); Lambert's Bay, Dist. Clanwilliam (A. Roberts).

Cosmopolitan in South Africa, *S. morsitans* can indeed boast over an extensive synonymy. With regard to the South African representatives of the genus Porath referred them to twelve different species. Several other species belonging to this cosmopolitan genus have shared the same fate in point of synonymy.

*Scolopendra* is the typical genus of the *Scolopendrinae*. With regard to its extensive synonymy Kraepelin correctly states:

“Nach dem etwa 250 Artnamen, welche für diese Gattung aufgestellt sind, sollte man schlieszen, dasz wir es in ihr mit der formenreichen Gruppe der ganzen Familie zu tun haben. In Wirklichkeit scheint dies jedoch keineswegs der Fall zu sein, da eine Gruppierung der Formen nach morphologisch definierbaren Charakteren kaum 2 Dutzend einigermaßen scharf von einander abgrenzbare Formenkreise erkennen lässt. Aber die Häufigkeit und ungemein weite Verbreitung dieser auffallenden, oft durch besondere Grösze ausgezeichneten Tiere, die Männigfaltigkeit ihrer Färbung, die Variabilität der meisten morphologischen Charaktere gegenüber einer im übrigen äusserst weitgehenden Gleichartigkeit des Gesamthabitus und eine oft geradezu niederdrückenden Geringfügigkeit der einigermaßen konstanten Charaktermerkmale, die von den älteren Autoren noch dazu meist völlig übersehen wurden, hat es mit sich gebracht, dasz jeder Autor die ihm vorliegenden Formen als neue beschreiben zu müssen geglaubt hat, und dasz so im Laufe der Jahre ein Chaos entstanden ist, das kaum entwirrbar erscheint....”

The following is a key to the widely distributed

### SCOLOPENDRA MORSITANS.

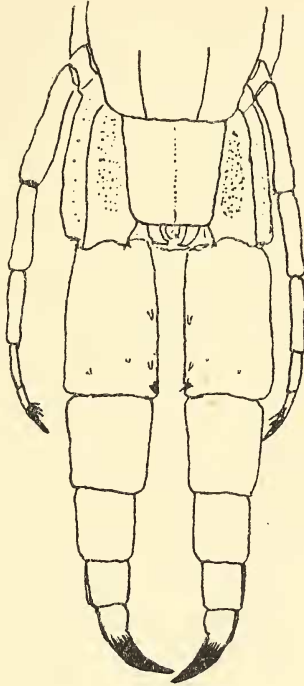
First tergite without a rounded transverse groove on its anterior margin. First pair of legs generally with a tarsal spur.

Femur of all the legs without spinous tuberosity on the dorsal distal extremity. Head-plate without longitudinal sulci. Sternocoxal plate (prosternal plate) without transverse sulci. Pubescence of antennae not arranged in distinct longitudinal rows; 19–21 segments to antennae of which 6–8 are naked, seldom 17–18 segments of antennae present; prosternal dentiferous plate carries 4–5 distinct teeth; basal tooth of femur of maxillipedes generally carries a small tooth-like prominence at its base. First pair of legs armed ventrally with a tarsal spur. Marginations of the tergites generally commence only from the 20th somite. Sternites bisulcate up to 20th somite, sometimes the sulci do not extend across entire sternite. Anal tergite with a fine median sulcus.

Pleurae with short truncated process carrying 1–5 spines, a posterior lateral spine often present.

*Colour*: “Färbung äusserst variabel, meist lehmgelb bis rotgelb, mit oder ohne grüne Hinterrande der Segmente, seltener olivbraun (wobei Kopf, sowie 1. und letztes Rückensegment meist heller gelbbraun), hellgrün mit dunkelgrünen Längstreifen (juv.) resp. Hinterrändern der Segmente, oder tief dunkelgrün. Länge in der Regel nur 70–90 mm.” (Kraepelin, *loc. cit.*).

The prevailing colour of the South African species is light yellow to creamy yellow, the tergites are marked with a dark-green edge laterally, anteriorly and posteriorly, often only laterally. Head-plate, first and second tergite, and anal tergite deep reddish brown tint. Entire dark green specimens are also fairly common with deep reddish brown head, first, second and anal tergites. The sternites have a lighter colour.

Genus *ARTHORRHABDUS* Pocock.*Arthrorhabdus formosus* Pocock. (Fig. 24.)*Habitat*: Port Elizabeth, Namaqualand, Willowmore, Steytlerville, Middelburg (C. Prov.); Victoria West; Steinkopf (S.W. Protectorate); Cradock (G. P. F. van Dam).

24

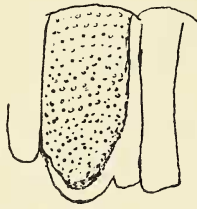
Fig. 24. Anal somite, pleurae and anal legs (ventral).  
*Arthrorhabdus formosus* Pocock.

This species is very common in the dry Karroo districts of the Cape Colony. Its distribution beyond the Orange River into the Orange Free State and the Transvaal is very sparse. It is also found in Natal. Only two species are known:

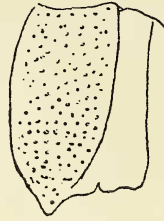
- A. pygmaeus* Poc. in North America.  
*A. formosus* Poc. in South Africa.

Genus *COLOBOPLEURUS* Kraepelin.*Colobopleurus devylderi* Porath. (Figs. 25, 27.)*Habitat*: Namaqualand; Kimberley; Groenkloof; Rustenburg (Tvl.) (G. P. F. van Dam); Gezina, Pretoria (D. A. Stuart).*Colobopleurus parcespinatus* Porath. (Figs. 26, 28.)*Habitat*: Port Elizabeth. (In Albany Museum, Grahamstown.)

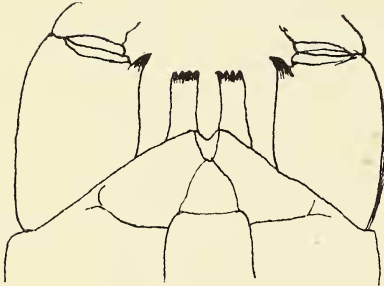
*C. parcespinatus* seems to be entirely confined to the southern coastal districts, *C. devylderi* predominating in the northern districts of South Africa. The genus is entirely confined to South Africa, as far as it is known.



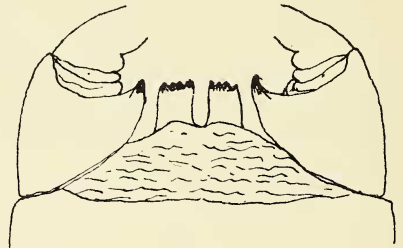
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Fig. 25. Pleura of *Colobopleurus devylderi* Porath.

Fig. 26. Pleura of *Colobopleurus parcespinatus* Porath.

Fig. 27. Sternocoxal plate, prosternal plates and femur of maxillipedes of *Colobopleurus devylderi* Porath.

Fig. 28. Sternocoxal plate, prosternal plates and femur of maxillipedes of *Colobopleurus parcespinatus* Porath.

(Figs. 24, 25, 26, 27, 28 from *Revision der Scolopendriden*, Kraepelin.)

#### Key to the Species.

1. The prosternal teeth-plates at least twice as long as they are broad. Seventh to tenth segments of antennae are naked. Pleurae curved posteriorly, and do not end in a process. Femur of anal legs unarmed, at most a minute tuberosity at the distal extremity **C. devylderi** Porath  
The prosternal teeth-plates are scarcely longer than broad. Only first four segments of antennae are bare. Pleurae end in a blunt process interiorly. Femur of anal legs armed on the inside (sometimes on the ventral surface) with 1-3 small spines. **C. parcespinatus** Porath

#### Family LITHOBIIDAE Newport.

Several specimens of *Lithobiidae* were found in the collection, but *Scolopendridae* is by far the predominating family. Only four or five representatives of *Lithobiidae* from Grahamstown (G. P. F. van Dam) are recorded. They agree very well with the species *Henicops* (Newport) *africana* Porath, which



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Porath founded and described from Caffraria (Transkei). (See Porath, *Myriopoda Africae Australis*.)

Family GEOPHILIDAE.

Likewise this family constitutes an extremely small fraction of South African Chilopoda. Porath describes a species belonging to the genus *Geophilus* (Meinert). The specimens from Grahamstown probably belong to the same genus. Porath referred his specimens to the genus *Geophilus*, but did not determine the species. His specimens were obtained from Caffraria (Transkei) and are recorded in *Myriopoda Africae Australis*.